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GUIDE

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NIAGARA FALLS

AND ITS

SCENERY,

INCLUDING

ALL THE POINTS OF INTEREST BOTH ON THE AMERICAN AND CANADIAN SIDE.

GEOLOGY AND RECESSION OF THE FALLS, BY SIR CHARLES LYELL.

EMBELLISHED WITH VIEWS OF THE FALLS AND SUSPENSION

BRIDGE, FROM STEREOSCOPIC VIEWS ESPECIALLY

FOR THIS WORK.

1871

BY F. H. JOHNSON,

A Resident at Niagara for Twenty Years, Late Captain of
the Maid of the Mist, Civil Engineer Author of
Maps, Statistics and Guide Books of
the Falls

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TO THE VISITOR.

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This is the only original, correct and reliable work in market. The author for several years has been personally and familiarly acquainted with all the points of interest in this "world's wonder," and great pains have been taken to make this work, in every respect, correct and worthy the attention of the tourist. The different routes and places are so arranged and minutely described, that the stranger cannot be misled or hesitate. These pages are given to the public with the belief that something of the kind is needed, inasmuch as works written by casual observers are either unnecessarily prolix upon some points, or not sufficiently clear and explicit upon others, to meet the wishes of the traveling public. This difficulty, it is believed, is entirely obviated in the following pages.

Follow the directions of this little work, and you can go to all points of interest on both sides of the river, without a mistake.

THE AUTHOR.



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GUIDE TO

NIAGARA FALLS & VICINITY.

CHAPTER I.

Goat Island.

The street leading to it is between the Cataract and International Hotels, about one fourth a mile distant. Three minutes' walk to the Toll Gate and Iron Bridge. Charges: for the whole day, fifty cents, or one dollar for the year. The bridge is about fifty rods above the Falls, and is an object of interest. The inquiry is not unfrequently made, How was it ever constructed over such a tremendous rapid? The first bridge was thrown across this angry stream in 1817, near the grist mill, above the present bridge, with much hazard of life and great expense. It was carried away by the ice the ensuing spring. In 1818, another was

constructed, where Bath Island Bridge now stands, by the proprietors of the island.

A suitable pier was built at the water's edge; long timbers was projected over this abutment the distance they wished to sink the next pier, loaded on the end next to the shore with stone, to prevent moving; legs were framed through the ends of the projecting timbers, resting upon the rocky bottom, thus forming temporary piers until more substantial ones could be built.

Rapids.

The next thing that attracts the attention of the visitor, as he passes on his route to Goat Island, is the Rapids. These are grand and impressive; thousands, in the summer season, particularly when the sky is clear, stand upon this bridge, and gaze upon the angry flood as it rushes past them in all its wild and tumultuous fury, filling the mind with emotions of awe and indescribable grandeur. Let the visitor look up the Rapids as far as the eye can extend; the river appears very much like the ocean dashing upon the beach after a gale.

From the head of Goat Island to the grand cataract, a distance of three-quarters of a mile,

the river falls fifty-one feet. It increases in velocity from seven to thirty miles per hour, before it makes the final plunge.

Chapin Island.

This island is to the right of and oelow the bridge, within a few rods of the American Fall. A man by the name of Chapin, while working on the bridge, was thrown into the stream, and carried by the current on to this island. Mr. Joel R. Robinson rescued him with a skiff. Hundreds of ladies and gentlemen witnessed this bold and daring adventure, which few, at so much hazard of life, would have had the nerve to attempt.

Bath Island contains about two acres. The largest stone building, to the right, is a paper mill, where is manufactured paper for the New York *Tribune*. Pass a second Iron Bridge to

Goat Island.

A good carriage road, Take to the right. Five minutes' walk to the foot of the island; descend a few safe and easy steps; here the overwhelming grandeur of the American and Centre Fall, or Cave of the winds, bursts upon

the astonished view, and is thought by thousands, to be unsurpassed by any other. In taking this route we get the less impressive view of the Falls, at first, and the more grand and imposing last, which, in the opinion of the author, gives the mind more time to appreciate the magnificent grandeur and awful sublimity of these mighty works. Cross a foot bridge, perfectly safe, to Luna Island; it contains about three-fourths of an acre.

Luna Island.

It is called Luna Island, not because it resembles the moon, but from the circumstances of a Luna Bow, being seen from this place more advantageously than from any other point. If the visitor's nerves are pretty steady he can stand within one foot of the Falls, and see the angry stream dashing in all its fury upon the rocks below, impatient to try its power in making this fearful leap.

It has often been remarked by strangers that this island trembles, which is undoubtedly true; but the impression is somewhat heightened by a nervous temperament or imagination.

It was at this point, after we pass the small

foot-bridge, about twenty-five feet above the Falls, that young Miss Antoinette De Forest, of Buffalo, aged eight years, by some unaccountable casualty fell into the river, and Charles Addington, aged twenty-two, jumped in to save her, and they both went over the Falls together, June 21, 1849.

The body of the girl was found, much mutilated, the next day, and that of the young man floated four or five days afterward, when it was recovered. This was one of the most afflictive scenes that has occurred within our recollection. The sheet of water before you is the

American Falls.

One-fourth of a mile wide; perpendicular height, 164 feet. Return by the same way; pass up the river, two minutes' walk, to Biddle Stairs, the top of which is in the Cave of the Winds' dressing room. Number of steps, 132. At the bottom is

Sam Patch's Leap.

This celebrated person made two successful leaps, in the year 1829, ninety-seven feet perpendicular, into the river below. Questions by the visitor. How was this done? A ladder

was raised, the bottom resting on the edge of the river, the top of the ladder enclining over the water, stayed by ropes to the trees on the bank, on the top of which was a small platform. He stood gazing upon the multitude, who had been attracted to the place by a man it was said going to jump over the Falls. He stepped off the platform; went down feet foremost 96 feet. Q. How deep is the river where he went in? A. About fifty feet. Q. How deep did he go down? A. It is dificult to answer this question correctly; probably not more than fifteen or twenty feet. Q. How long did he remain under water? A. Some said he was gone for good; others affirmed it was five minutes; but a gentleman, holding his watch, informed us it was just half a minute belore he rose. Q. What became of the fool-hardy fellow? A. He made a jump at Rochester, Genesee Falls, the same year, which was his last. His body was never found.

Cave of the Winds

It is seen to the best advantage from below. If the wind is blowing down the river, or from the American shore, you can stand with perfect





safe'y upon a large, flat rock, within a few feet of the falling sheet, without inconvenience from the spray. In the afternoon, when the sun shines, there is always a splendid rainbow, between the sheet of water and the rock, within a few feet of you; and this is the only place on the globe, as far as the author can learn from history, and from travelers, where a rainbow forming an entire circle can be seen. Two, and sometimes three, have been seen at once.

Width of the cave is one hundred feet; diameter, sixty; height, one hundred.

It is much visited both by ladies and gentlemen. The scenery is very fine.

The impending rocks sometimes fill the visitor with alarm lest they might fall; but they seldom fall in the summer season, and no accident has occurred since the year 1829.

On returning, proceed up the river about sixty rods to a small house built by the proprietor of the island, for the purpose of rest. Descend the bank, and cross a small bridge to the tower. This is called

Horse Shoe Tower,

The Tower is on the west side of Goat

Island, within two rods of the Falls, forty-five feet high, and two hundred feet above the river below, surrounded near the top by a portico and an iron railing. This tower has been called by some Prospect Tower, and by others Terrapin Tower, but is generally and best known as Horse Shoe Tower. Visitors of a nervous temperament, and especially old people, when stepping out upon the piazza, unfrequently feel a kind of giddiness or tremor; but on looking up or around upon the green foliage, the nerves generally become tranquil. We are then better prepared to appreciate the overwhelming grandeur of this magnificent scene. The view from this tower, in the opinion of the anthor, of the width of the river, the Rapids, the Horse Shoe Fall, and the angry, boiling deep below, is not surpassed by any other.

The river below, in its wild, tumultuous fury, produces a perfect foam, sometimes called a river of milk.

Horse Shoe Fall,

This is the entire circle from Goat Island to the Canadian side of the river. Its width, by calculation, is 144 rods; perpendicular height, 158 feet. It derived its name from its shape; but it must have altered much since it was first named, as large masses of rocks in the neighborhood of the Horse Shoe Fall every year.

This is sometimes called the Canada Fall, which is a mistake; the Americans own one half of it. The line between the two governments runs in the centre of the river, through the point of the Horse Shoe, where it looks so green, following the deepest channel, and through the centre of the lakes.

What gives the Horse Shoe Fall, and the river below, that green appearance? We can assign no other reason than the depth.

Quantity of Water-

Professor Lyell says, fifteen hundred millions of cubic feet pass over the Falls every minute. Dr. Dwight, former President of Yale College, says, one hundred millions two hundred thousand tons pass over the Falls every hour. Jud. De Voux, in his "Traveler's own Book," says: five thousand eighty-four millions eighty-nine thousand eight hundred and fifty-three barrels descend in twenty-four hours; two hundred

eleven millions eight hundred thirty-six thousand eight hundred fifty-three every hour; three million five hundred thirty thousand six hundred fourteen every minute; fifty-eight thousand three hundred forty-three every second. "I should think," says one "that the river would exhaust itself." True; when the upper lakes, with their vast tributaries, run dry, Niagara will be no more. Other estimates, by scientific gentlemen, have been made, arriving at nearly the same results.

Depth of Water on the top of Horse Shoe Fall.

It is estimated by Sir Charles Lyell, and others to be twenty feet in the centre, or where the water looks so green. There is, however, a better data to ascertain this fact than all the calculations, however learned. The ship Detroit, being condemned on the lake, was bought by a Company, !aded with a live buffalo, bear, deer, fox, and other animals, and sent over the Falls in the year 1829. She was knocked to pieces in the Rapids, except half of her hull, which was filled with water. It drew eighteen feet, and passed over the point of the Horse Shoe

without touching. Hundreds saw her make this fearful plunge, and I have no doubt that the estimates are correct. This, then, gives a solid column of water on the top of the rock of at least twenty feet.

The visitor, after spending what time he wishes on Horse Shoe Tower, will return to the bank. If he wishes to reach his hotel by the nearest route, without going round by the head of the island, he will take a small path directly back of the building fronting Horse Shoe Tower. This is a pleasant walk leading to the bridge, and shortens the distance more than one half. But we will suppose he wishes to continue his rambles around Goat Island.

The best point from which to get a correct view of the shape of the Horse Shoe Fall is about forty rods up the river, from the point where he ascends the bank from the tower, near a small stone monument, directly in his path, marked with a cross on the top, set by the surveyors, to ascerrain if the Falls recede. Let him step to the bank, and he will get one of the best views of the shape of the Horse Shoe there is, on either side of the river.

Three Sisters.

These islands are on the south-west side, and near the head of Goat Island. In the year 1841, a man by the name of A. P. Allen, in attempting to cross the river in a skiff, from Chippewa, unfortunately broke one of his oars; but with a skill and coolness never surpassed, he managed to reach the outer island, and jumped ashore, while his skiff darted on like an arrow over the Falls. Though saved from immediate death, yet his situation was perilous in the extreme: the hope of rescue was extremely doubtful; and starvation was staring him in the face. Two nights and one day he remained upon this lonely spot. He struck a fire: the smoke wreathed in columns above the tree tops. Great numbers of our citizens assembled, and heard his cries for help. At length a rope was thrown across from one island to the other, and, by means of a skiff, the same intrepid Robinson succeeded in bringing him to shore. These islands are connected by three bridges, spans of 65, 80 and 82 feet long.

Bathing Place of Francis Abbot the Hermit.

The bathing-place of Francis Abbot is on

the west side of Goat Island, the first perpendicular cascade after leaving Horse Shoe Tower, near the three islands called the Three Sisters. He was learned, gentlemanly, and accomplished, pleasing in address, but could not be approached by a stranger. He lived nearly twenty months entirely alone. He was drowned below the ferry, in the year 1831. His body was found at Fort Niagara, fourteen miles below, recognized, brought back, and sleeps in our burying-ground. This lonely spot was resorted to by this singular individual generally at night. The thunder's terrific sound, the lightning's blaze, mingled with the roar of the cataract, was the element in which he delighted to breathe. Very little is known of his history.

Head of Goat Island.

At this point, Navy Island, near the Canada shore, to the right, containing three hundred and forty acres, the scene of the McKenzie War, in 1837-38, is in plain sight. It was occupied by three or four hundred Americans,—a heterogeneous mass of all classes, without the discipline, or any efficient means to carry on war Chippewa, on the Canada shore, but a

short distance below, contained at the time four or five thousand British soldiers. The two governments took no active part in this hotheaded enterprize, and it fell by its own weight. Grand Island is to the left, on the American side, resembling the main shore, containing seventeen thousand two hundred and forty acres, purchased by M. M. Noah, and, according to his fanciful visions it was to be the future home of all the Jews on the globe. The visitor, in turning his eye to the right or left, will readily perceive how this island divides the river, the greater portion rolling to the Canada shore. It would be thought incredible that any person could have reached the island before a bridge was built; yet such is the fact. As early as 1765, several French officers were conveyed to it by Indians in canoes, carefully dropping down the river between the dividing waters, where the river for some little distance is calm; and Peter B. Porter, of Black Rock, with some other gentlemen, also made a trip to the island in a boat. They found but little trouble in descending, but their return was difficult and hazardous.*

^{*}Trees marked 1765 and 1769 were, until a few years past, clearly to be seen.

It was effected by shoving the boat with setting poles up the most shallow part of the current for half a mile before making for the shore. Falling into the current within a mile of the Falls must be fatal. Several accidents of this kind have happened, and the unfortunate persons, as far as the author can recollect, were hurried on to destruction.

It is but a few years since an Indian, partially intoxicated, on attempting to cross the river in a canoe, was drawn into the Rapids. Finding all efforts to reach the shore unavailing, he took a good horn of whiskey, lay down in the canoe, passed rapidly over the Falls, plunged into the yawning vortex below, and disappeared for ever. At this point, the Head of Goat Island, where we are now standing, it can be more satisfactorily explained why it was called Goat Island. A man by the name of Stedman, about seventy years since, put some goats upon the island, which remained there nearly two years. He reached the island, and returned the same way as the Indians and others had done.

The old clearing you notice at the left is part of an Indian burying-ground, but of the tribe to whom it belonged nothing definite is known. It is supposed by some they were the Iroquois.

THE FIRST PROPRIETOR OF NIAGARA FALLS.

The white man has driven the Indian away, Far from Niagara's shore; No more is he permitted to stay, And hear the loud cataract's roar.

The war-whoop that echoed o'er Niagara's isles,
Has long since died away;
Far in those lonely wilds,
Where the wild wolf devours his prey.

In the distant wilds of the west,
The red man sought for repose,
Where the mind and body would be at rest,
Away from the white men—his foes.

To the home of his fathers the chieftain has gone,
No more will he lead the brave to the battle,
His warriors no longer around him will throng,
Where the swift arrows fly and the armour doth rattle.

No more will his name produce terror and dread, Nor his arm be uplifted to strike the death-blow; Low he sleeps in the dust where slumber the dead, While the plants of the valley over him grow.

The tribe that once followed their chief to the fight— Like the mist of Niagara, how vanished away! Far from the land of their birth they have taken their flight.

The once noble, and valiant, and brave, where are they?

THE AUTHOR.

Iris, or Goat Island.

Iris, or Goat Island, contains sixty-nine and a half acres; is a fraction over a mile in circumference, and heavily timbered. Most of the smooth bark trees are marked with initials, bearing different dates. "In 1805," says Judge Porter, "there was a beech tree on the bank, near the Horse Shoe Fall, marked 1770, 1771, and 1772." The names of these early travellers are not recollected.

No sportsman is allowed to carry a gun on this island, as it would endanger the lives of those who are promenading through it. The cottage near the bridge is the only dwelling on the island. The island affords a wild and delightful retreat: in the hottest days there is always a refreshing and invigorating breeze from the river. There are six bridges connected with this island, and one tower.

Goat Island

Is private property. The owners employ a police and an overseer, that the rules of good order and decorum are strictly observed.

The best time to visit Goat Island, if the sun shines, is in the forenoon; you have the advan-

tage of a shade from the forest trees, the rainbows below, and in some places but a few feet from you.

Note.—No charge on the island, except at the Toll Gate and the Cave of the Winds.

CHAPTER II.

Spray.

Spray, like the smoke of a burning mountain, sometimes rises into the sky, forming dark, heavy clouds, tinged with the refulgent rays of the rising and setting sun, which have been seen, says Judge Porter, more than one hundred miles.

This depends entirely upon local causes. If the wind is blowing down the river, the view from the Horse Shoe Fall and the American Falls is not in the least obstructed; but if it blows hard up, or from the Canada shore, some inconvenience, occasionally, is experienced in approaching very near the Falls, on account of the spray.

Rainbows.

There are two. One is always seen in the

day-time, when the sun shines; the other at night, called the Lunar Bow. The latter is only beheld once a month, when the moon is at the full, and sufficiently high in the heavens, and the sky clear. And Niagara, as far as the author can learn from travellers and from history, is the only place on the globe where a rainbow at night can be seen with distinctness. At all events the Lunar Bow is peculiar to this place.

View of the Falls at Night.

An evening view has a very different effect upon the mind of the beholder from that of a view in the day time. The moonbeams playing upon the agitated waters; the spray, like the smoke of a volcano, rising into the sky; the endless roar of the cataract, mingled with the heart's deepest impressions, give such indescribable sublimity and grandeur, that language is but a poor vehicle to convey the impressions we feel.

View of the Falls at Sunrise.

This view is thought by thousands to have no rival in grandeur, sublimity and interest. Every point of time, however, in getting a view is different, and has its different effect upon the beholder.

View of the Falls at Sunset.

When the sun has rolled onward in his chariot of fire, and thrown his last rays upon Niagara, bidding adieu for the night to the grandeur of the scene that so much in power resembles himself, the view is perfectly indescribable.

Roar of the Falls.

This depends much upon the wind, and the state of the atmosphere. Sometimes every door and window, the least ajar, for a mile around, will tremble, and the roar may be heard from fifteen to twenty-five miles. At other times our citizens would scarcely know that there were Falls in the neighborhood. In a few instances the roar has been heard at Toronto, a distance of forty-four miles.

First Impression of Strangers.

At first sight, strangers are sometimes disappointed: either their expectations have been raised too high, or the sublimity, grandeur and magnificence of the scene far surpass every thing they could possibly have anticipated.

The second view is frequently more impressive than the first. The longer the visitor tarries, the more he enjoys and appreciates; the impression is indelibly stamped upon his memory, and for years infixed there, as with the imprint of a sunbeam.

The Falls, it is true, when seen from above, do not appear more than fifty or sixty feet high; but let the visitor go below, if he would get a correct impression of this stupendous work.

Rise of the River.

Those causes which swell other rivers have no effect upon this. It never rises unless the wind has been blowing down Lake Erie from a westerly direction. S. Ware, Esq., who kept the ferry for seventeen years, says, "One foot on the top of the Falls will, by actual measurement, raise it seventeen and a half feet below." This is attributable to the river being pent up in a very narrow pass at the Suspension Bridge, and not being able to find its way out as fast as it accumulates above.

Fall of the River.

From Lake Erie to Lake Ontario (36 miles),

339 feet; from Lake Erie to the head of Goat Island (22 miles), 25 feet; from the head of Goat Island to the Main Fall (half a mile), 50 feet; perpendicular height of the American Fall, 164 feet; on the Canada side, 158 feet; from the Falls to the Whirlpool (2½ miles), 64 feet; from the Whirlpool to Lake Ontario (11 miles), 25 feet. Total, in 36 miles, between the two Lakes, 339 feet.

Depth of the River below the Horse Falls.

This has never been ascertained. Engineers and others have, at different times, attempted to sound it, but owing to the strong and irregular undercurrents, no definite reports could be made.

The Falls cannot be Described.

There is too much sublimity, majesty, and overwhelming grandeur for finite minds to comprehend or explain. No language is adequate to give to the stranger a correct idea of these stupendous works of the Almighty. And they have always appeared to the author like the hand of the Deity stretched out for his creatures to look at. "Lo, these are parts of his ways;" "But the thunder of his power who can understand?"





THE HORSE SHOE FALL from Court Island

Winter Scene.

It is thought by many, who have visited the Falls at this season, that it far surpasses that of The icicles, in the shape of inverted cones, hanging from the high banks; the dazzling splendor of an effulgent sun darting his fiery beams upon them; the frozen spray, clothing the trees in its silvery robe; the roar of the ice, as it rushed onward to try the fearful leap; the ceaseless thunder of the cataract: the bow of promise smiling serenely upon the angry flood; the enchained river within its icv embrace, struggling like some monster of the deep to be free,—all combine to render the scene awfully grand and terrific. No language is adequate to give a correct impression; it must be seen before it can be appreciated.

The First Man who Saw the Falls

The first white man who saw the Falls, as far as we have any authentic record, was Father Hennepin, Jesuit missionary, sent out from the French among the Indians, as early as the year 1678, 192 years since. His descriptions were visionary and exceedingly exaggerated. He thought the falls six or seven hundred feet high,

and that four persons could walk abreast under the sheet of water without any other inconvenience than a slight sprinkling from the spray. But we would not attribute this wild and fanciful description to a want of candor, or an intention to deceive. The fact probably was, he had no means of measuring its height, and undoubtedly got his account from the Indians, which very likely would be incorrect.

Indian Tradition.

The Indians, it is said, in Judge de Veaux's works, have a tradition that two human beings, yearly, will be sacrificed to the Great Spirit of these waters. Whether any reliance can be placed upon the tradition of the Indians or not, it is nevertheless true that almost every year has proved fatal to some one. The following instances can be mentioned.

Casualties.

Dr. Hungerford, of West Troy, was killed by a rock falling upon him, between Biddle Stairs and the Cave of the winds, May 27th, 1839.

John York is supposed to have gone over the Falls, as pieces of his boat and part of his loading were picked up below, 28th Nov., 1841. William Kennedy was in the boat with him, and found dead on Grass Island, just above the Rapids

J. H. Thompson, of Philadelphia, was washed off a rock below the Falls, under the great sheet of water, by leaving the guide, and venturing too far upon places of danger. August 16, 1844.

Miss Martha K. Rugg, from Lancaster, near Boston, Mass, while picking a flower, fell over the bank, just below Barnett's Museum, (Canada side), one hundred and fifteen feet. August 23, 1844. She lived about three hours afterwards.

Charles Smart, from Philadelphia, fell about forty feet from a rock in the Cave of the Winds, August 31, 1846. Killed instantly.

John Murphy, aged fourteen years, son of a widow lady of our village, attempting to cross the river in a canoe, about a mile above the Falls, was drawn into the current, and went over, June 13, 1847. His body was never found.

A son of Mr. White, aged five years, and his sister about a year and a half older, were playing in a canoe; it floated out into the stream. The agonized mother beheld this heart-rending scene she rushed into the river nearly up to

her neck,—rescued the girl; the boy went over. He was last seen sitting in the bottom of the canoe, holding on to lach side with his hands. July 9, 1848. His body was never found.

A gentleman, from Buffalo, supposed to be on an excursion shooting ducks; his boat was drawn into the Rapids, above the grist mill; seen by several of cur citizens to pass under the bridge; heard to exclaim—"Can I be saved?" His boat, with the velocity of lightning, passed on; dashed against a rock nearly opposite the chair factory; he was thrown out; went over feet foremost near the American shore, August 25, 1848. His body was never found.

A Mrs. Miller cut her shawl in pieces, tied them together, and hung them over the bridge leading to Goat Island, intending, doubtless, to induce the belief that she had let herself down into the angry flood, and had gone over the Falls. Very few of our citizens believed it, as there was too much pains taken for the purpose of committing suicide. It was all a farce, as she was heard from at Syracuse, and other places, a few days after. Some love affair occasioned this wild freak. Her father, a very

respectable lawyer, died soon afterwards, it was thought of a broken hear.

A gentleman from Trey, N. Y., in the winter of 1852, while passing over the bridge to the Tower, fell into the river, was instantly carried to the verge of the precipice, and lodged between two rocks. Mr. Isaac Davy rescued him, by throwing some lines in the direction; he had just sufficient strength left to tie them around his body, and he drew him to the bridge, whence he was taken to the Falls Hotel. He remained speechless for several hours, but finally recovered.

Avery on the Log.

On the morning of July 19, 1853, a great excitement was created by the discovery of a man on a log in the Rapids, midway between the main shore and Bath Island, and about thirty rods below the bridge which leads to the tollgate on the island. The rock against which the log had lodged can be seen from the bridge, or from the bank. The circumstances, as near as are known, of the way he got there, are these. This man, Avery, and another man, being in the employ of Mr. Brown, boating sand above

the Falls about two miles, got into a boat at ten o'clock at night to take a pleasure sail. The next morning Mr. Avery was discovered on the log above mentioned, which being reported called thousands of people to the spot to see the unfortunate man and to do what they could to rescue him. In the first place a small boat was let down; but it filled with water, and sunk before it reached him. By this time a life-boat from Buffalo had reached the spot, and was lowered into the stream, which reached the log he was on, passed by above it, capsized, and sunk, which was the last of that. Next, a small boat was let down, which reached the spot all right, but the rope got entangled under the log, and could not be got loose; so that boat was use-Another plan was tried: a raft was let down to him all right, and he got on it, and the raft was moved toward Bath Island as far as it could be, but the ropes soon got entangled in the rocks, and the raft stuck fast. another boat was let down to him, to take him from the raft; but as the boat reached the raft, the water dashed the boat against the bow of the raft, which gave it a sudden jog, and Avery, not using the means that were prepared for his

safety, viz., ropes for him to hold on to, or tie himself with, stood erect on the stern of the raft; and as the boat struck, he fell off backward, and the rapid water carried him over the Falls, at about six o'clock, P. M., at which time the crowd (being about three thousand in number) left the spot with slow and solemn steps for their homes. It was an awful scene.

On Friday, September 24, 1869, a terrible accident occurred at the Falls. A party from Providence, R. I., consisting of a Mr. Tillinghast and wife, Mr. Fisher, Mrs. Smith, and Miss Mary Ann Ballon, were in a carriage going down the roadway leading to the ferry landing, on the Canada side, when some portion of the harness gave way on one of the horses. The result was that the carriage was thrown over the precipice. Mr. Tillinghast and the driver sprang from the carriage in time to save themselves, but the ladies were carried over, and fell a distance of forty or fifty feet. Smith was found to have been killed instantly, by a blow on the head. Mrs. Tillinghast was cut and bruised about the head, and was otherwise injured. Mrs. Fisher had one wrist fractured, and suffered contusions on various parts

of the body. Miss Ballon was taken up for dead, but finally recovered consciousness, and it is thought will recover.

J. Prince jumped off the old Suspension Bridge, December 8, 1869. Body never found.

A Visit to Goat Island by Moonlight.

Thousands, in the summer season, when the the weather is fair, promenade through the island at night: it is a delightful treat. The carriage-road is fine; the dark forest in all its native grandeur is around them; not a breath moves the surrounding foliage; the moon, pouring a flood of mellow light through the opening of the trees, the silence of death is only interrupted by Niagara's ceaseless roar, filling the mind with emotions of awe, grandeur and sublimity, which it is impossible to describe. It must be witnessed before it can be appreciated.

The Lunar Bow

Can only be seen about once a month, or when the moon is within two or three days previous or after its full. The reason is, there is not light enough to form the bow. The best points from which to view this grand spectacle are at

the foot of Goat Island, on Luna Island, and Horse Shoe Tower. If the sky is clear, the wind right, and the atmosphere favorable, an entire arch can be seen. The author has frequently seen a whole arch, with three colors very distinct; and we are inclined to believe, as far as we can learn from travellers, that this is the only place on the globe where a rainbow at night, in the form of an arch, can be seen at all. It is indescribably grand, worthy the attention of the tourist, and will amply repay him for a trip to the island to behold. "Thou hast told us right," said a party of Friends, from Philadelphia, to the author: "this sight alone is sufficient to pay us for a journey to the Falls." The mind takes a mild and sublime range, but its emotions cannot be expressed.

CHAPTER III.

Nearest Route to Canada.

On landing from the cars, pass through the Depot, turn to the right. From Cataract House, turn to the left, pass down the river. From the International, take the left. Five

minutes walk on either of the above routes brings you to the Ferry house—290 steps. Cars worked by water power descend the bank on an inclined plain of 33 degrees. Charges for crossing and returning, 50 cents. The Ferry Boats from above appear small and insecure, but are perfectly safe; will carry twenty-five or thirty persons. Not a single accident has occured in forty years. The depth of the river from actual soundings is 180 feet. Nothing can equal the sublimity and overwhelming grandeur of the scene. The American, and Horse Shoe Falls, Goat Island—with its dark, waving forest, the opposite bound shore, the brilliant hues of the rainbow, overpowers, dazzles and bewilders the The American Fall appears to imagination. be tumbling out of the clouds, or like a mountain of snow in a whirlyind. The time in crossing the Ferry is ten minutes. Take the only earriage-road up the bank, one-fourth of a mile. The large building to the right is the Clifton House; one of the first class houses in Canada, or in the United States. Turn to the left, one-third of a mile brings you to the Horse Shoe Fall. Language is but a poor vehicle to express the emotions we feel while beholding the grandeur and awful majesty of the works of the Almighty. It must be seen to be appreciated. The large building, a few rods below the Falls, is a Museum, the only place on the Canada side where dresses and a Guide, can be procured to go under the Falls.

Table Rock

Is on the Canada side, near the great Horse Shoe Fall, and the terminus of the carriage road in this direction. It was formerly about fifteen rods long, and three wide, and projected over the precipice from fifty to sixty feet. Thousands of the most timid have stood upon this giddy eminence with perfect safety, and gazed upon the resplendent grandeur of this this enchanting, bewildering scene. While contemplating it the mind is lost, and sinks back upon itself amid the immensity of God's works. Two large portions of Table Rock have fallen within a few years, but have detracted but little from this grand view.

Fall of Table Rock.

On the 26th of June, 1850, our citizens were startled with the report that Table Rock had fallen. Many of us instantly repaired to the

place, to witness for ourselves an event we had long expected. What a chasm! What a tremendous crash. The rocks heaved, the earth trembled. A mass of rock, nearly two hundred feet long, sixty wide, and one hundred feet thick, fell into the river, and almost every particle disappeared from sight. The noise produced by this falling rock was something like the rumbling of an earthquake. It was heard four or five miles on each side of the river. Fortunately, no lives were lost, though some forty or fifty persons were standing upon the rock but a few moments before. In 1818, a portion of Table Rock fell. In 1828, a large mass fell from the centre of the Horse Shoe Falls. Another mass fell connected with Table Rock, and extending under the sheet of water toward the point of the Horse Shoe, about one hundred and fifty feet long, fifty feet wide, and one hundred feet deep, carrying with it a canal boat that had lain on the verge of the Horse Shoe for months.

Burning Spring.

This Spring is situated two miles above the Falls, on the Canada side, near the water's edge.

It is the carbonated sulphuretted hydrogen gas that burns. Touched with a match, it gives out a brilliant flame, rising two or three feet high. Many are very much interested, and to those who have never seen anything of the kind, it is an object of a good deal of interest.

Lundy's Lane Battle-Field.

Lundy's Lane is a mile and a half west of the Falls, on the Canada side. The battle, in its hottest fury, was fought principally in the night, with the bayonet; Gen. Peter B. Porter commanding the volunteers; Generals Brown and Scott wounded; Riall and Drummond (British Generals) wounded and taken prisoners. This, it is said, was the severest battle ever fought on this continent. The British had in killed and wounded, eight hundred and twenty-seven; the Americans eight hundred and sixty. It was a drawn game,—both parties claiming the victory. July 25, 1814,

The above is taken from General Brown's official report to the Secretary of war. This is somtimes blended with the Chippewa battle, but it is a mistake. Chippewa battle was fought near the Burning Spring, July 5, 1814.

The visitor, by way of the Ferry, can cross over to Table Rock, and return to his hotel, in one hour.

Note.—If you purchase any goods on the Canada side, a duty of thirty-three per cent. will be required on them. A few remarks further, before we pass to the Suspension Bridge.

Burning of the Steamer "Caroline."

If the appearance of a ship on fire at sea, at night, in a thunder-storm, is grand and terrific, no less so was that of the steamboat "Caroline," in flames, as she was loosed from her moorings at the old landing, near Fort Schlosser, and towed out into the middle of the river, by the command of Colonel McNab, a British officer. Here she was abandoned and left to her fate. The night was intensely dark. She moved steadily on; a broad sheet of lurid flames shot high into the heavens, illuminating the western clouds with its red glare; rockets were ascending from the Canada shore, expressive of the success of the expedition. A universal shout rings out upon the night air, from the party who have just left the doomed boat. She enters the Rapids, at the head of Goat Island, nearest the

Canada shore, careens over, rights, passes on, like a flaming meteor, to her final doom. Striking upon Gull Island, she swings around, awfully shattered by the conflict, the flames rolling up, for a moment, as if not alarmed by Niagara's roar, but determined not to be encircled within its cold embrace, or to be beaten by its mighty and terrific power. The war of the elements continues for an instant; the "Caroline" has disappeared, leaving "not a wreck behind;" and Niagara is victor, proclaiming to the world that its power is not lessened by the strife of men, or any casual floating substance upon its bosom. Very few, however, beheld this grand spectacle, as it was during the night, and most of the inhabitants had retired from the frontiers. It is not our purpose at this time, to enter into the minutiæ of this affair; suffice it to say the boat was charged by the British with aiding the refugees, by carrying provisions and arms to Navy Island, which doubtless was true. This specification was brought before the court by the British consul, at the trial of McLeod, for the niurder of a gentleman from Buffalo, who was

shot on board the "Caroline." It will be recollected McLeod was acquitted.

The fragments of the boat that lodged on Gull Island remained there till next spring. What was left of her after passing the Rapids went over the point of the Horse Shoe Fall. No person, we believe, was on board. December 29, 1839.

The Line between the two Governments,

As agreed upon by the commissioners (General P. B. Porter was one, on behalf of the United States' Government), is in the centre of the river, or deepest channel, passing through the point of the Horse Shoe, through the centre of Lake Erie, Lake Superior, and so on to the northean boundaries of the United States.

Indian Offering to the Falls.

In the month of August, 1851, the writer accompanied a party of Indians from the northwest wilds of Minnesota (on their way to Washington) to the foot of the American Falls. The wind was favorable, and we approached within a few feet of the falling sheet. They gazed in rapt wonder on the mighty flood, as it rolled its angry waters and fell upon the resounding

rocks below. For a long time every muscle of their countenances indicated a religious awe, and their thoughts appeared to be communing with some superior power. At a signal from the chief they drew a small red pipe from their girdle, and, with a great deal of solemn gesturing each threw his pipe under the Falls. This, I was told by the interpreter, was a religious offering to the Great Spirit, that he would be propitious to them on their journey, and return them in safety to their homes. We then conducted them to the Tower, on the west side of Goat Island. They were induced, by some ladies and gentlemen present, to give their views of what they saw. They did so, in the following words, as far as their language could be interpreted.

"Brothers," said the chief, "we live in the woods, far towards the setting sun. Our fathers once owned these lands and this river; they have told us of these Falls, but now we see them. Brothers, you are great, but you cannot stop this water; you cannot put your hand on its mouth and make it still. Yonder," pointing to the clouds, "is the Great Spirit; he made these, and this is his work; and yonder," pointing to

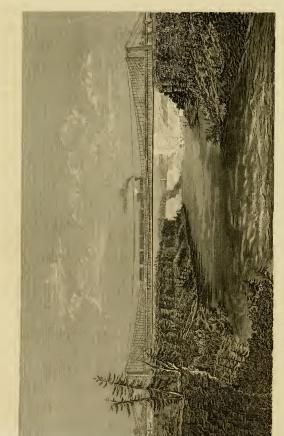
the rainbow (which at the time shone most brilliantly), "we see his face,—we see him smile. We shall tell our children what we have seen. Brothers, our hearts are glad that we turned aside from our path to see this great wonder .-Brothers, we thank the whites for our good treatment." The emotions of Red Jacket, the celebrated Indian chief, while visiting the Falls some years since, was of a very different character. He admired the grandeur of nature's work, but not with that religious awe and devotional feeling with which those wild untutored sons of the forest mentioned above were inspired. Envy and jealousy rankled in his bosom against the white man, the destroyer of his race. He saw, at a glance, the superiority of the white man over the red man of the woods, and he hated him because he had not the power to become his equal.

CHAPTER IV.

Suspension Bridge

is two miles below the Falls, is eight hundred feet long, and extends two hundred and thirty





- MONAL RAILY AN SUSPENSION GRIDGE

feet above one of the maddest streams on the globe. It is owned by a stock-company, and cost about five hundred thousand dollars. It was built under the superintendence of J. A.

Roebling. The cars of the Great Western Railroad pass over the bridge to connect with the New York Central.

The following are the dimensions:-

			0				
Lengt	h of	span f	rom	centre to	centre of	towers	822 ft.
Heigh	t of	tower	abov	ze rock o	n the Am	er. side	88 "
	"		46	66	n the Am	ıda side	73 "
.6	66	46	_ "	floor of	railway.		60 "
							258 "
Number of wire cables 4							
Diameter of each cable							
							3659
Ultimate accreage strength of cablestons 12,400							
Weigh	ht of	simer	struc	eture			800
W Cig.	44	Super	"	and	maxi'm	lds. "	1250
Weight of superstructure							
SIIID	port.						1000
Note.—The wires were first got across by means of a							
kite.							

A New Suspension Bridge.

A new Suspension Bridge, now finished, at a cost of one hundred and seventy-five thousand dollars, designed for foot passengers and carriages; this Bridge is about sixty rods below the Ferry, a good path through the Grove, on the bank of the river. If at the Cataract House,

pass in front of the International, turn to the left, five minutes walk brings you to this bridge, (via) of the Ferry.

The following are its dimensions .-

The span from rock to rock is 1190 feet.

The span between the centres of the towers is 1268 feet. The length of the suspended platform is 1240 feet.

Height above the surface of the river 190 feet.

The length of the central portion, resting on cables, is 635 feet.

The length of the platform supported by stays and

cables is 605 feet.

The deflection of cables at centre—in Summer 91 and in Winter 88 feet, making a rise and fall of the bridge from changes of temperature three feet.

The length of the cables between the points of suspen-

sion in medium temperature is 1286 feet.

The length of cables between anchorages is 1828 feet. Length of cables and anchors 1838 feet. Height of towers above rock on Canada side, 105 feet, and on American side 100 feet. Base of towers 28 feet square, and top four feet square.

The bridge is supported by two cables, composed of seven wire ropes each, which contain respectively 133

No. 9 Wires.

The weight of these wire ropes per lineal foot is 9 pounds, and the diameter of the cable is seven inches.

The total weight of the suspended portions of the ca-

bles is 82 tons net.

There are forty-eight stays weighing fifteen tons net. There are fifty-six guys connected with the bridge.

The aggregate breaking strain of the cable is 1680 tons net, and that of the stays 1820 tons net, making a total supporting strength of the cables and stays 3000 tons.

The number of suspenders used is 480, with an aggregate strength of 4800 tons.

The weight of the suspended roadway, including

weight of cables and stays, is 250 tons. The ordinary working load is 50 tons, and the maximum load is 100

tons; permanent and transitory load 350 tons.

The towers when completed will be covered with wood and corrugated iron, and in point of architectural beauty will be highly ornate, imparting to each terminus of the bridge an air of elegance and substantiability, and rendering the whole an attraction among the beauties and wonders of that interesting locality.

Distance from your hotel (American side,) to Table Rock, Burning Spring, Battle Ground, via the old Suspension Bridge and return is a fraction over fourteen miles, and by the new 10 miles.

CHAPTER V.

The Whirlpool Rapids.

The best place to get a view of this wild tumultuous scene, is about a quarter of a mile below the suspension Bridge. Let the visitor by all means, descend to the water's edge at this point. This is the place where the Maid of the Mist was overwhelmed and lost her smoke stack. But one opinion filled the mind, she is Lost!

The Whirlpool.

On the American side, is three miles below the Falls, and is visited on account of the wild and magnificent grandeur of its scenery. The river here tuns abruptly to the right, forming an elbow, and as the waters rush against the opposite banks, a whirlpool is formed, in which logs and other bodies have been known to float for many days before finding their way out.

The river, in the centre, is estimated by the Engineers, to be eleven feet and a half higher than on each shore, and the visitor often wonders how the Maid of the Mist ever passed down here and lived, yet such is the fact. There is no perpendicular fall or external outlet at the Whirlpool. The distance across it is one thousand feet; perpendicular height of the banks, three hundred and fifty feet.

"Maid of the Mist" going through the Whirlpool.

She left her moorings, about a quarter of a mile above the old Suspension Bridge, June 15, 1861, and swnng boldly out into the river, to try one of the most perilous voyages ever made. She shot forward like an arrow of light, bowed gracefully to the multitude on the bridge, and with the volocity of lightning passed on to meet her doom. Many beheld this hazardous, daring a lyenture, expecting every instant she would be

dashed to pieces and disappear forever. Amazement thrilled every heart, and it appeared as if no power short of *Omnipotence* could save her. "There! there!" was the suppressed exclamation that escaped the lips of all. "She careens over! She is *lost!* But, guided by an eye that dimmed not, and a hand that never trembled, she was piloted through those maddened waters by the intrepid Robinson in perfect safety, and is now performing less hazardous voyages on the St. Lawrence.

She is the only craft, so far as we know, that ever made this fearful trip and lived, Though our intrepid hero had performed many hazardous exploits in saving the lives of persons who had fallen into the river, yet this last act, in taking the *Maid of the Mist* through the Whirlpool, is the climax of all his adventures. The boat lost her smoke stack, but otherwise received no injury, being very strongly built.

Three men were on board, Pilot, Engineer, and Fireman, all safe.

Width of the River.

Two and a half miles above the Falls the river is three miles mide, but at the outlet of the

Whirlpool, it is only twenty-five rods. A man by the name of Whitmore threw a stone across from one Kingdom to the other.

Depth of the River at the Whirlpool.

It is impossible to ascertain, as no soundings can be made. It is thought, by some, to be five or six hundred feet deep.

Devil's Hole, or Bloody Run.

Is three and a half miles below the Falls, on the American side. During the French War, in 1765, a detachment of the British Army, while retreating from Fort Schlosser, were decoyed into an ambush of French and Indians. The yell of the savages as it rang out upon the midnight air, was the first indication of their attack. Baggage wagons, officers, men, women and children, were pushed over the bank into the awful chasm below. The number of those who perished was 250. Only two persons escaped, a drummer, who was caught in a branch of a tree in his descent, and a man by the name of Steadman, (the same who put the goats upon Goat Island.

CHAPTER VI.

GEOLOGY

AND

RECESSION OF THE FALLS.

Sir Charles Lyell says: "The first feature which strikes you in this region is the escarpment, or line of inland cliffs, one of which runs to a great distance east from Queenston. On the Canada side it has a height of more than three hundred feet. The first question which occurs when we consider the nature of the country, is, how cliffs were produced? why do we so suddenly step from this range to the gypseous marls, and then so suddenly to the subjacent shale and sandstone? We have similar lines of escarpment in all countries, especially where the rock is limestone; and they are considered to be ancient sea cliffs, which have become more gentle in their slope as the country has emerged from the ocean. You may perhaps ask if the Ontario may not once have stood at a higher level, and

the cliffs been produced by its action, instead of that of the ocean. Some of you may have passed along the ridge road, as it is called,-that remarkable bank of sand which exists parallel, or nearly so, to the present borders of Lake Ontario, at a considerable height above it. I perfectly agree with the general opinion respecting this, that it was the ancient boundary of Lake Ontario. In some parts of it freshwater shells have been found. You cannot explain the escarpment by the aid of the action of the lake, for it extends farther, and not in the same direction. When the land emerged gradually from the sea, as it is now doing, the sea would naturally create those sea-cliffs, and during the upheaval they would of course become inland. In Europe, proofs that limestone rocks have been washed away are abundant. In Greese, in the Morea, this is especially conspicnous. We have there three limestones, one above the other, at various distances from the sea. Along the line you may see literal caves worn out by the action of the waves. The action of the salt spray, which has effected a sort of chemical disposition, is easily to be observed. So completely is this the case with each of these

lines, that you cannot doubt for an instant that here is a series of inland cliffs; and this phenomenon being so certain in the Morea, leads us by analogy to infer that these escarpments of the district were produced by a similar cause.

"It is not disputed that there is some change going on at the Falls, even now. There occurs, as we know, occasionally a falling down of fragments of rock, as may be seen at Goat Island. The shale at the bottom is destroyed in consequence of the action of the spray and frost; the limestone, being thus undermined, falls down; and it has been believed that in this way there has been a recession of about fifty yards in about forty years, but this is now generally admitted to have been overstated. There is at least a probable recession of about one foot every year, though part of the fall may go back faster than this; yet, if you regard the whole river, even this probably will be something of an exaggeration. Our observations upon this point are necessarily imperfect; and when we reflect that fifty years ago the country was perfectly wild, and inhabited by bears, wolves, and here and there a hunter, we shall think it surprising that we have any observations at all, even for such a period back. We have an account of the Falls, given by Father Hennepin, a French missionary, who gives an exaggerated description of them, and yet one which is tolerably correct. He represents a cascade as falling from the Canada side across the other two. He says that between Lake Erie and Lake Ontario there is a vast and wonderful waterfall; after speaking of this, he says there is a third cascade at the left of the other two, falling from west to east, the others falling from south to north. He several times alludes to the third cascade, which he says was smaller than the other two. Now, those who consider that because Father Hennepin gave the height of the Falls at six hundred feet, small value is to be attached to his testimony respecting any part of the country, do him injustice. I think it perfectly evident that there must have been such a third cascade, falling from west to east, as that to which he alludes.

"A Danish naturalist, who came in the year 1758, to this country, and visited the Falls, of which he has also given us a description, which was published in the Gentleman's Magazine in 1751, also gives a view of the Falls. In its gen-

eral features his description agrees well with that of Father Hennepin. He went seventy-three years after him, and there was then no third cascade. But the point where Father Hennepin had put his cascade, he had marked, and says that 'that is the place where the water was forced out of its direct course by a prolligious rock, which turned the water and obliged it to fall across the Falls.' He goes on to say, that only a few years before, there had been a downfall of that rock; which was undoubtedly a part of the Table Rock; and after that the cascade ceased to flow. Now, it does not appear whether he had ever seen Hennepin's account or not; he only mentions the fact that there had been a third cascade: and it is a striking confirmation of the accuracy of Father Hennepin's description. We find these two observers, at an interval of seventy-three years apart, remarking on the very kind of change which we now remark as having taken place within the last fifty years, an undermining of the rock, and a falling down of the limestone, and a consequent obliteration of the fall. Every one who has visited the Falls, on inquiring of the guides about the changes that have taken place, may have been told that the American Fall has become more crescent shaped than it was thirty years ago, when it was nearly straight. The centre has given way, and now there is an indentation of nearly thirty feet. The Horse Shoe Fall also has been considerably altered. It is not of so regular a crescent shape as formerly, but has a more jagged outline, especially near Goat Island; it has less of the horse-shoe shape, from which it derives its name, than when it was given. It is quite certain that things there are not stationary, and the great question is whether, by this action, the whole Falls have been reduced in this manner. From representations made by other travelers, I was desirous of ascertaining whether fresh water remains were found on Goat Island, as had been said, for it would be striking if on this island there should be a stratum of twenty-five feet of sand and loam, pebbles and fresh water shells. They were found there, and I made a collection of several species of shells found on the island, among them were the planorbis, a small valvata, and several other kinds. They were of kinds generally found living in the rapids in the river above, or in the lake.

"In digging a mill-race there, only a few years since, there were found a great number of shells, and also a tooth of a mastodon, some twelve or thirteen feet below the surface. It was the common Ohio mastodon, and must have been buried beneath these twelve or thirteen feet of fresh water deposits, one layer at a time, each containing different shells. In answer to my question, whether similar shells were ever found lower down, the guide said he would take me to a place, half a mile below, where the strata had been laid open. We found there deposited in the rock a small quantity of fresh water shells, showing that this old deposition extended down to that distance. Here we have proof that the river once stood at a higher level and in a tranquil state: and there is every appearance of the rock having been like a solid barrier to hold the waters back in a lake-like state, so that they might throw down those fresh water deposits at that height. You will understand this better if you consider that if the Falls go on receding, no matter at what rate,—an inch, a foot, or a yard, a year,—in the course of time the whole must recede considerably from its present condition. What proofs should we have

of this afterward? You will easily see that if the river should cut its way back to a certain point, the effect would be to remove the rocky barrier, the limestone of the rapids, which has been sufficient to pond the river back. But if the river cuts its way back, this barrier could no longer exist; the channel would be deepened, and the deposits existing high and dry upon the land would become proof of the recession. This kind of proof we have, that the Falls have receded three miles from the Whirlpool, the limestone having been higher at the Whirlpool than the river at the the Falls. It may be well to say that the beds all dip to the south, at the rate of about twenty-five feet in a mile. In seven miles the dip causes a general rise of the platform to the north, so that when at the top of the cliff you are at a greater height than the level of Lake Erie; and if the Falls were formerly at Queenston, their height was probably near double what they now are.

"Mr. Hall suggested that at that time the whole fall was not at one place, and I think it quite likely that such was the case. There is reason to believe that one fall was upon the quartzose sand below, and the other on the

Protean bed. The upper part would of course recede faster than the lower, because it is softer as is seen to be the case at Rochester; but the limestone, becoming thicker and harder, would recede more slowly. There may have been several falls, as at Rochester, each one of them being less high than at the present, and yet the whole being nearly double its present height.

"I told you that the river fell about one hundred feet between the base of the Falls and Lewiston, so that the bed slopes at that ratz. This slope of the river, and then the upward slope of the platform, are the reasons why the Falls are now of a less height than formerly; so when we carry ourselves back in imagination to the time when the river had not receded so far, we have a barrier of limestone much higher. The valley in which the river then flowed must have been much narrower than its present ravine. The distance now from the Canada to the American side is about three-quarters of a mile, whereas at half a mile below it is only half that distance.

"Farther investigations, by tracing the freshwater deposits lower, will give more precise information. You might suppose that if we find the remains of a mastodon in a fresh-water deposit, so lately laid dry as that near the Village of Niagara, and only twelve feet below the surface, the mastodon has lived in the country at a moderate period; you might think that a few centuries would have been sufficient for the accumulation of twelve feet of shelly sandstone and limestone, and that it may have been recently that this mastodon was buried, when the barrier was at the Whirlpool, before this twelve feet of fluviatile strata were deposited. Yet these strata are older than the Whirlpool.

"Among the objections to the supposition that the ravine was cut out by the Niagara, one is, that at the place called the Devil's Hole, or the Bloody Run, the ravine must have been cut by some more powerful cause than by a slight stream.

"But this I regard as no objection at all, for on examining the nature of the soil, &c., I am convinced that even the small stream which now flows would have been perfectly competent to cut out the ravine, and that we need look for no more powerful cause.

"Suppose the Falls once to have been near Queenston, they would recede differently at

different times,—faster when the soft shale was was at the base, at other times slowly, when the hard sandstone was to be cut through. First of all comes the quartzose sandstone, for a certain distance; then the Falls recede slowly, but more rapidly when it came to the soft shales; then comes the sandstone again at the base, which now extends to the Whirlpool, and here the movement was slow. It probably stood for ages at the Whirlpool. Then for another period it receded more rapidly, and it is probable that for the last mile its recession has been comparatively slow, because the Protean group, and about twenty feet of sandstone, making about fifty feet of hard rock, at the base, were to be cut through. It is certain that the movement now is at a faster rate, as the shale is exposed."

The above reasoning perfectly coincides with the opinion of Dr. Dwight, and others who have devoted any time to the subject, and strangers, as far as the author has been able to learn, have come to the same conclusion.

The following fragment, written in the Register of the Point View Garden, at Niagara Falls, on Sunday, August 1, 1847, by Dr. Bax-

LEY, of Baltimore, illustrates the profound impressions produced on the mind and heart by this most wonderful work of nature:—

A SABBATH AT NIAGARA.

Here, near the temple of Almighty God, The soul, wrapp'd in humility, bows down In awe and reverence. 'Tis meet that man, The creature, beholding the bold displays Of power stupendous, wisdom infinite, Should look, through nature's grandest witness, up To nature's God. And deeming here all time A Sabbath, yet on this day appointed Holy to Him who rear'd these rocky walls, Buttress'd below by tide wash'd massive piles, Entablatured with beetling battlements, And corniced with a waving wilderness Of verdure,—who outspread you azure roof, Now softly mellow'd with ethereal tint, Or darken'd by the thunder's messenger, Gilded anon by lightning's gleams, or now Radiant with starry hosts, whose mirror'd beams Carpet the billowy floor with silvery light,— Who raised you altar, and upon its brow Of emerald, in characters of light, Inscribed, e'en with his own right hand, "To God!" Where ministering birds, with notes attuned To an eternal anthem, hymn his praise, And bear on dewy wings a pearly cloud Of incense up toward the Almighty's throne, Fit worshippers in nature's holiest fane,— Who guards the portal of this sacred place With ever-heaving sea of snowy foam, Whose tempest voice to man presumptuous calls, "Thus, and no farther shalt thou go," and points To ceaseless whirling tides, the awful Maelstrom of Niagara, dread emblem of Th' eternal doom of man, vain man, who seeks

To pass the limit of asign'd command. And moral law,-

E'en on this Sabbath day, Here, near God's own great temple, would we bow In humble praise and prayer; and, while the lip Rests silent, would the soul its homage give, And favor seek: petitioning that in The devious path of life so may we move, That when these rocks shall melt with fervid heat. When the rich garniture of teeming earth Shall vanish, leaving no trace of brightness Or of beauty to tell that it once was, This restless tide no longer flow, and its Deep cadence cease, when the blue dome that spans The earth shall pale away, and radiant spheres No longer shed abroad their hallow'd light; Then may the hope that rests upon His word Who ne'er was false to man, who hangs his bow Upon the cloud, and spreads it night and day Upon his altar's incense, token to man Alike of His redeeming power and will,— Then may the hope that on His word relies, Nurtured by love and rectitude, grow strong In trust and prescience of a home "not made With hands, eternal in the heavens!" August 1, 1847.

TO NIAGARA.

Written at the first sight of its Falls, 1833, by J. S. Buckingham.

Hail! Sovereign of the World of Floods whose majesty and might First dazzles,—then enraptures,—then o'eraws the

aching sight:

The pomp of kings and emperors, in every clime and zone,

Grows dim beneath the splendor of thy glorious

watery throne.

No fleets can stop thy progress,—no armies bid thee stay,—

But onward—onward—thy march still holds its way;

The rising mist that veils thee as thine herald goes before And the music that proclaims thee is the thundering cataract's roar.

Thy diadem is an emerald green, of the clearest, purest hue.

Set round with waves of snow-white foam and spray of feathery dew,

While tresses of the brightest pearls float o'er thy ample sheet.

And the rainbow lays its gorgeous gems in tribute at thy feet.

Thy reign is of the ancient days,—thy sceptre from on high;

Thy birth was when the morning stars together sung with joy;

The sun, the moon, and all the orbs that shine upon thee now,

Saw the first wreath of glory which twine I thine infant brow.

And from that hour to this, in which I gaze upon thy stream,

From age to age,—in winter's frost, or summer's sultry beam—

beam,—
By day, by night,—without a pause,—thy waves with loud acclaim,

In ceaseless sounds have still proclaimed the Great Eternal Name.

For whether on thy forest banks the Indian of the wood.

Or, since his days, the red man's foe, on his fatherland has stood,—

Whoe'er has seen thine incense rise, or heard tny torrent's roar.

Mast have bent before the God of all to worship and adore.

Accept then, O Supremely Great!—O Infinite!—O God! From this primeval altar—the green and virgin sod—The humble homage that my soul in gratitude would pay To thee! whose shield has guarded me thro' all my wandering way.

For, if the ocean be as naught in the hollow of thy hand, And the stars of the bright firmament, in thy balance, grains of sand;

If Niagara's flood seems great, to us who lowly bow,
O Great Creator of the whole! how passing great art
thou!

mou:

Yet, tho' thy power is greater here than finite mind may scan,

Still greater is thy mercy shown to weak dependent man; For him thou cloth'st the fertile fields with herbs, and fruit, and seed,

For him the woods, the lakes, supply his daily, hourly

need.

Around, on high,—or far or near,—the universal whole Proclaim thy glory, as the orbs in their fix'd courses roll. And from creation's grateful voice thy hymn ascends above,

While Heaven re-echoes back the chorus,-God is love.

Recession of the Falls.

The fall of every rock, in the vicinity of the cataract, is an evidence of the truth of Professor Lyell's remarks. The large rocks, below the American and Horse Shoe Falls, have evidently rolled from the high banks at some time.

The point of the Horse Shoe Fall, where it looks so green, has receded more than a hundred feet since my recollection. The author was an officer in the American army, in the war of 1812, well acquainted with the Falls, on both sides of the river at that time, and is confident the above is correct. This agrees, also, with the opinion of strangers, who have not visited us for fifteen or twenty years. There was a small island, about fifty rods above the Horse Shoe Falls, containing nearly two acres, called Gull Island, which has every particle washed away within five years.

Health of the Falls.

No place in the United States can boast of a greater degree of uninterrupted health than the Falls. The town contains about three thousand inhabitants. Not an epidemic, not a case of cholera, has ever originated here. This is attributable, doubtless, in some degree, to the rapid current of the river and the pure and exhilarating state of the atmosphere. Whatever may be the cause, such is the fact, and it is acknowledged by every one.

Hotels.

The Cataract House, and International, are considered among the first-class houses in the United States.

Niagara

Is a corruption of the Indian word "Onyakara," supposed to be the Iroquois language, as the Iroquois were the first who dwelt here, as far as we know. The meaning of the term is "mighty, wonderful, thundering," water. It lies in latitude 43 degrees 6 minutes north, and longitude 2 degrees 5 minutes west, from London.

It is called Niagara River, between the two Lakes, Erie and Ontario, a distance of 36 miles. When it leaves Ontario Lake, it is then the River St. Lawrence, passing the Rapids, Thousand Islands, Montreal, Quebec, and falls into the Gulf of St. Lawrence, 450 miles below Quebec.

Sources of Niagara.

Lake Superior is the largest body of fresh water in the world,

	450	50 miles long. 109 wide. 180 " 180 " 155 " 15 "		800 ft.deep		
Lake Huron	218	"	180	"	500	"
" Mich	300	"	55	"	200	**
" St. Clair	40	44	15	4.6	80	66
" Erie		"	55 15 65	"	900	46

and is 565 feet above the level of the ocean. Winnebeg, Winnebego, with several smaller lakes, together with one hundred rivers, large and small, pour their waters this way, draining a country of more than one hundred and fifty thousand square miles, and discharges more water, perhaps, into the ocean, than any river on the Globe.

A Disposition of Strangers to Jump over the Falls.

In some instances this is unquestionably true, as it has often been remarked to the author, "I have a great mind," say they, "to give a jump; do you think it would hurt me?" The cause is difficult to explain. They are not accustomed to stand upon such a giddy eminence, with the wild world of waters around them; all sense of danger for a moment is lost. The grandeur and sublimity of the scene overpowers them, and it frequently happens that persons the most timid at home are perfectly calm and collected here. Space allows us to mention but one instance. A young lady alighted from her carriage (Canada side), stepped quickly to the edge of the Table Rock,

before it fell, stood upon one foot on the very brink, the wind blowing hard at the time from the Canada shore. Her mother screamed. A gentleman present made motions to have her keep quiet, passing quickly behind her, laid his hand firmly upon her shoulder: "Madam," said he, "are you not unnecessarily exposing yourself to danger?" "Oh, no!" she replied, "I can jump off here,—fly away like a balloon, and it would not hurt me at all" The cause is difficult to explain, but such is the fact in some instances.

Niagara Never, Freezes Over.

But it accumulates more ice than any river on the Globe. One-half of the river on the Canada, and nearly three-fourths on the American side, was closed in by ice, caused by the river freezing along the shore, and soon after a severe storm, thousands of acres of ice came tumbling down from the lake above, lodging against rocks and other obstructions, forming a safe way nearly to the centre of the river, to the head of Goat Island, to the bank of the American Fall, extending over it, and more than one-fourth of the way across. Many of our citizens

availed themselves of this novelty, to visit places where human beings had never before been, and perhaps never will be, until the voice of the Almighty shall roll back again this flood into darkness and void.

The proprietor of the Cataract House, in 1855, drove a horse and cutter nearly into the centre of the river, to the very verge of the American Fall. A daguereotype was taken

Ice Cones Under the Falls.

In the winter of 1855, some of them were immense; more than 300 feet at the base, and reaching nearly to the top of the American Fall. A son of the writer cut his way with a hatchet more than 160 feet high; his head was nearly level with the Falls, and he stood there until a daguereotype likeness was taken. The Rapids, the Ice, the Falls, the River, and everything connected with them, presented one of the most grand and sublime spectacles ever witnessed. What rendered it more thrillingly interesting, was the icicles hanging from the cliffs, a hundred feet long. The spray issuing from the dark caverns below, like the hot breath of some monster of the deep struggling

to be free; the sun darting his fiery beams, as if to melt, at a single glance, this cold and mysterious barrier; the bow of promise smiling serenely over these waring elements; and the roar of Niagara is hushed, save a few muttering groans issuing from the dark caverns of the deep, evincing how terrible will be its power when once aroused in the majesty of its wrath, which in a few days she bursts these frail barriers, hurls the chains with which the wars bound into the dark chasm below, and Niagara was once more free-not a foe in sight,-not an enemy in the field; and the old saying, "whatever we can bind we can conquer" is not true, for no power but Omnipotence, and no event but dark chaos, sweeping over the world, can ever conquer NIAGARA.

Ice Bridges Below the Falls.

This, in latter years, is a frequent occurrence, sometimes extending nearly half a mile down and across the river, from the American to the Canada shore; and in the centre from 15 to 30 feet high, caused by ice rolling over the Falls, plunging into the deep below, rises to the surface, and forms the bridge as above.

But it the river rises, this slender hold that bound her to each shore, is broken, and the bridge disappears, sometimes in one night, at others it lasts until May.

Three Distinct Falls at Niagara.

The American is separated from the Centre Fall by Luna Island; they both pour their waters to the West; the Horse Shoe Fall, to the North-east. Father Hennepen, who visited the Falls in 1678, says: There is a cascade, near the Horse Shoe, which falls from West to East, on the Canada side; but every vestige of the last has disappeared.

The Falls moreImpressive than the Sun, or Any Heavenly Body.

Millions gaze upon the Sun, every day, without the slightest emotion of interest; but to the visitor at the Falls this kind of listless indifference is impossible.

Different Places of Interest.

No two persons are exactly agreed, which is the best, or the most impressive. This depends a good deal upon several causes; nervous temperament, ill health, and many other circum-

stances, may detract materially from the overwhelming grandeur of this scene: but the visitor will recollect, every point of interest, produces a different effect, with a greater or less degree of vividness upon the mind. Some are warm and enthusiastic admirers of natures works, and in their flights of fancy, instantly leave the world, and soar away, into the regions of boundless space: where the Almighty, enthroned in light, and glory, reigns Supreme, and uncontrolled, over millions of worlds besides our own. Others are content to grovel along, scarcely ever looking up from Nature, to Nature's God. The want of impressiveness, is not in the grandeur of the scene, but in the mind of the beholder. If the sun shines, the interest of the visitor is much enchanced on either side.

The Emotions of the Red Man at the Falls.

While gazing upon the glories of this bewildering scene, are always calm and sedate, and appear holding communion with some Superior Power, and this, as far as we know, is as acceptable service to the Deity, as that, which arises from the most guilded temples, sparkling with gold, and ornamented with all the ingenuity or art of man.

Niagara at Night in a Thunder Storm.

The writer, a few years since, accompanied a party of ladies and gentlemen, to the Horse Shoe Tower, about one o'clock at night, when the most terific thunder storm, burst suddenly upon us, that had been witnessed in this vicinity for many years. The lightning's vivid flash, leaping the tail barriers of the clouds, darted suddenly to the earth, with a crash, that made the world tremble, and Niagara, too, felt its awful power, and for a moment appeared to cease its roar, and was still, afraid, amid the roaring elements, her voice could not be heard, for when Jehovah speaks, let his works and his creatures be silent. And nothing to me was ever more awfully grand, and terrific than this scene.

The Greatest Quantity of Water, Canada Side.

It has been estimated, by scientific gentlemen, that nearly ten tons to one, passes over the Horse Shoe Fall. And the channel is evidently becoming deeper, on that side every year. This is known from the fact, that rocks once under water, on the American side, are now entirely bare.

Rain Bow, Canada Side.

In the afternoon, from three to five o'clock, if the sun shines, there is always, a broad, expansive arch to be seen, extending at times, from the Horse Shoe, to the American Fall; and this scene, in the opinion of the writer, is unequaled by any other.

Fossels and Shells

have been found on Goat Island, which demonstrate, they were left here by flood, or that the waters once flowed over this whole country; but, at what period, is forever overwhelmed, in the obscurities of the past. We leave this to the Geologists.

Universal Admiration of the Falls.

Not in their height, nor in the volocity of the Rapids, the Rain Bow's brilliant hues, the ceaseless thunder of the cataract, the amazing quantity of water, that makes this foaming and headlong plunge, into the yawning gulf below; not in either of these, separately, but all combined, that fills the mind with awe, majesty, grandeur, and overwhelming sublimity, that can never be expressed; for when the Deity rolled those mighty works into being, he virtually said, I will have no rival on the Globe, and there is none.

Atheism at the Falls.

We may have been schooled in Infidelity, and taught to believe there is no God; but during our stay at the Falls, let the individual be an Atheist if he can, impossible.

Under Current of the River.

On the surface, below the Falls, it runs on an average, about six or seven miles per hour. Below, the sailors say about 30 or 40 feet, it runs, at least, 10 or 12 nots. And this is the reason, we think, why saw logs, and other bodies plunging over the Horse Shoe Fall, are not seen, until they come up at the Whirlpool; a distance of three miles.

Why was it Called Horse Shoe Falls.

It originally took its name, from its shape, but it is far from that appearance now. Large rocks, weighing thousands, and perhaps millions of tons, have, within a few years, fallen from the Horse Shoe Falls, at the point where it looked so green, and the angle is evidently becoming more accute, apparently, working its way towards Goat Island, which is very perceptable to our citizens, and strangers, who have not visited us for fifteen or twenty years.

Looking up.

If the visitor would get a correct idea of heights, let him go below the Falls and look up. This is difficult to explain, perhaps the mind is less accustomed to compare objects with distances from above. Whatever may be the cause, such is the fact. The Earth, to a man in a Balloon, appears at a much less distance, than when this height is seen from below. This law holds good everywhere. The Falls, when seen from above, do not appear more than 50 or 60 feet high; hence, strangers are frequently disappointed. The best place to get a correct idea of heights, is at the Cave of the Winds, or crossing the Ferry.

Disappointment to Strangers.

At first view, this is sometimes the case; but we think the instance is not on record, where the visitor has any mind to appreciate sublimity, and overwhelming grandeur, can be disappointed after a few days at the Falls.

Looking Steadily at the Horse Shoe Falls.

Let the visitor look steady for a few moments, about half way down the Horse Shoe Fall, near the point where it looks so green, and it has a very different effect upon the mind. The falling flood is more steady than any power in our world, a striking emblem of human life, how rapidly the generation of men are passing away, or like the clock of eternity, striking the notes of time.

Rainbow from the Top of the Tower.

When the sun shines, it adds much to the magnificent grandeur of this scene. It is the same sign set in the heavens, painted by the same Divine hand, but for different objects.

Trembling of the Tower.

This, we think, is more attributable to imagination, than reality: there may be a slight tremor, but it is imperceptable to those accustomed to the place.

Rapids above the Horse Shoe Fall,

They extend on the Canada side, in their wildest fury, about two miles and a half; but on the American side, only three-fourths of a mile. Any human being thrown into the rapids, if near the centre of the river, is hurried on to destruction.

Accidents to Strangers.

There are not as many accidents, in proportion to the number who visit the Falls, as among our citizens; strangers are generally more careful and timid, cautious how they approach places of apparent or real danger, until satisfied of their perfect safety. Some, however, have a more fool-hardy adventure in their constitutions, venturing out upon places of danger, where human beings never ought to go.

Drowned, June 8, 1870.—A young man named Whittaker, a Student at Deveaux College, was drowned on Saturday afternoon, while bathing in the river, below the Whirlpool. He was from Pittsford, N. Y. His body has not been found.

IMPROMPTU ON LEAVING NIAGARA.

'Tis hard to leave thee, mighty flood,
'Tis hard to leave thee now,
With that thunder in thy depth,
And glory in thy brow.

'Tis hard to leave thy great rocks, Thy white, dashing foam, To greet the world's wide cares Which await around my humble home.

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